AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of jetting droplets of viscous medium onto a substrate, the method comprising the steps of:

providing a jetting nozzle comprising a nozzle space and a nozzle outlet;

feeding said viscous medium into the nozzle space; [[and]]

impacting said viscous medium with an impact mechanism, thereby jetting viscous medium from the nozzle space in the form of droplets through the nozzle outlet towards the substrate; and

varying a volume of a droplet of the viscous medium independent of a stroke length of the impact mechanism,

wherein the step of feeding comprises:

prior to each step of impacting to jet each individual droplet, filling the nozzle space with said viscous medium to a varying degree to adjust the volume of the viscous medium in the nozzle space, the degree being adjusted in dependence on the volume of the droplet to be jetted after each step of impacting.

2. (Canceled)

3. (Currently Amended) The method as claimed in claim 1, wherein said step of feeding comprises:

regulating the rate of feeding of viscous medium into the nozzle space within a jetting sequence such that the nozzle space is filled to [[said]] a predetermined degree during the time period between the jetting of successive droplets within said jetting sequence.

4. (Previously Presented) The method as claimed in claim 1, further comprising the step of filling the nozzle space from the end opposite the nozzle outlet towards the end at the nozzle outlet, such that a portion of the nozzle space located closest to the nozzle outlet is free of viscous medium when the nozzle space is partially filled with an amount of viscous medium corresponding to a desired droplet volume.

5. (Previously Presented) The method as claimed in claim 1, further comprising the steps of:

pausing the jetting operation,

filling, during said pause and prior to jetting of the first droplet to be jetted after said pause, the nozzle space with viscous medium; and

reducing, prior to said jetting of the first droplet, the amount of viscous medium in the nozzle space to a preset degree.

6. (Previously Presented) The method as claimed in claim 5, further comprising the steps of:

providing a chamber for containing viscous medium, said chamber being located upstream of the nozzle space as seen in the feeding direction; and

providing said reduction of viscous medium in the nozzle space by increasing the volume of said chamber, such that a preset amount of viscous medium located in the nozzle space is retracted into said chamber.

7. (Previously Presented) The method as claimed in claim 6, further comprising the steps of:

providing an impact end surface constituting a wall of said chamber, said wall being located opposite the nozzle space;

when pausing, moving said impact end surface into an idle position; and

providing said increase of the volume of said chamber by moving said impact end surface, in a direction away from the nozzle space, from said idle position into a position ready for impacting.

8. (Previously Presented) The method as claimed in claim 7, further comprising the step of performing said moving of the impact end surface into the idle position, such that no unintentional jetting of viscous medium is produced.

9. (Previously Presented) The method as claimed in claim 5, wherein said filling during said pause comprises:

filling said nozzle space by activating a feeder for feeding viscous medium a predetermined time prior to said jetting of the first droplet.

10. (Previously Presented) The method as claimed in claim 9, wherein said filling during said pause comprises the step of:

controlling the feeding operation and selecting said predetermined time such that a predetermined feeding pressure is obtained at an outlet end of said feeder prior to said jetting of the first droplet.

11. (Previously Presented) The method as claimed in claim 10, wherein said step of controlling and selecting comprises the step of:

controlling the feeding operation and selecting said predetermined time such that a flow of excess viscous medium out of the nozzle outlet, as a result of said filling of the nozzle space with viscous medium during said pause, is reduced to a preset degree.

12. (Previously Presented) The method as claimed in claim 10, wherein said step of controlling the feeding operation comprises the step of:

controlling the feeding rate during said pause prior to said jetting of the first droplet, such that a predetermined feeding pressure is obtained at an outlet end of said feeder prior to said jetting of the first droplet.

13. (Previously Presented) The method as claimed in claim 12, further comprising the step of controlling the feeding rate such that it is higher prior to said jetting of the first droplet than during the ensuing jetting sequence.

14. (Previously Presented) The method as claimed in claim 10, wherein said filling during said pause comprises the step of:

selecting said predetermined feeding pressure in adaptation to a desired jetting frequency and a desired droplet volume of a jetting sequence following said pause.

15. (Previously Presented) The method as claimed in claim 1, further comprising the step ~~of:~~ of removing viscous medium residue from the nozzle outlet.

16. (Previously Presented) The method as claimed in claim 5, further comprising the step of removing viscous medium residue from the nozzle outlet, wherein said removing comprises removing excess viscous medium flowing out of the nozzle outlet as a result of said filling of the nozzle space with viscous medium during said pause.

17. (Previously Presented) The method as claimed in claim 15 or 16, wherein said removing further comprises the step of providing a gaseous flow past the nozzle outlet such that the gaseous flow carries said viscous medium residue and excess viscous medium away from the nozzle outlet.

18. (Previously Presented) The method as claimed in claim 17, wherein said step of removing further comprises the step of providing a suction generator for producing said gaseous flow.

19. (Previously Presented) The method as claimed in claim 1, further comprising the step of regulating the feeding operation of said feeder.

20. (Previously Presented) The method as claimed in claim 19, wherein said regulation of the feeding operation further comprises the step of regulating the feeding rate of said feeder, such that the time for said feeding of said viscous medium into the nozzle space is substantially constant, regardless of the desired droplet volume.

21. (Previously Presented) The method as claimed in claim 19, wherein said regulation of the feeding operation further comprises the step of regulating the duration of the feeding prior to the jetting of each individual droplet.

22. (Previously Presented) The method as claimed in claim 1, further comprising the step of using a feed screw for said feeding of viscous medium.

23. (Previously Presented) The method as claimed in claim 1, wherein said impacting further comprises the step of regulating the impacting characteristics such that a desired exit velocity of each jetted droplet is obtained.

24. (Previously Presented) The method as claimed in claim 23, wherein said regulating of said impacting characteristics further comprises the step of regulating said impacting characteristics such that a predetermined exit velocity is maintained irrespective of the volume of the droplet to be jetted.

25. (Previously Presented) The method as claimed in claim 24, wherein said regulating of said impacting characteristics further comprises the step of increasing the impact velocity for jetting a droplet of a smaller volume and decreasing the impact velocity for jetting a droplet of larger volume, such that said predetermined exit velocity is maintained.

26. (Withdrawn – Currently Amended) A system for jetting droplets of viscous medium onto a substrate, comprising:

a jetting nozzle from which the droplets of viscous medium are jetted, wherein the jetting nozzle comprises a nozzle outlet facing the substrate, and wherein the interior of the jetting nozzle defines a nozzle space arranged to receive viscous medium to be jetted;

a feeder for feeding viscous medium into <u>said nozzle space of</u> said jetting nozzle;

an impacting device for impacting said viscous medium, thereby producing jetting of viscous medium from the nozzle space in the form of droplets through the nozzle outlet towards the substrate; and

a control unit arranged for controlling said feeder, between each impact, to feed a controlled amount of said viscous medium into the nozzle space to adjust the volume of viscous medium in the nozzle space, such that the amount of said viscous medium fed into the nozzle space for the subsequent jetting of droplets is varied in dependence on a desired specific volume of each individual droplet to be jetted,

wherein the volume of each individual droplet to be jetted is varied independent of a stroke length of the impacting mechanism.

27. (Withdrawn) The system as claimed in claim 26, wherein the feeding rate of said feeder is adjustable, and

wherein said control unit is arranged to control the feeding rate within a jetting sequence such that said amount of viscous medium is fed into the nozzle space during the time period between the jetting of successive droplets within the jetting sequence.

28. (Withdrawn) The system as claimed in claim 27, wherein said control unit is arranged to control said feeding rate such that the time for said feeding of a controlled amount of said viscous medium into the nozzle space is substantially constant, regardless of the desired droplet volume.

29. (Withdrawn) The system as claimed in claim 26, comprising a feed screw as said feeder.

30. (Withdrawn) The system as claimed claim 26, wherein the impacting characteristics of said impacting device are adjustable, and

wherein said control unit is arranged to control said impacting characteristics such that a desired exit velocity of each jetted droplet is obtained.

31. (Withdrawn) The system as claimed in claim 26, further comprising a jetting chamber for receiving viscous medium, wherein said jetting chamber is in open communication with said nozzle space.

32. (Withdrawn) The system as claimed in claim 31, wherein the volume of said jetting chamber is increasable, such that upon increase of the volume of the chamber, an amount of viscous medium located in the nozzle space is withdrawn into said jetting chamber.

33. (Withdrawn) The system as claimed in claim 32, wherein one wall of said jetting chamber opposite the nozzle space is constituted by an impact end surface of the impacting device, and

wherein said impacting device is arranged to retract said impact end surface from the nozzle outlet such that said withdrawal of the viscous medium into the jetting chamber is achieved.

34. (Withdrawn) The system as claimed in claim 33, wherein said impacting device is arranged for impacting viscous medium in the jetting chamber with the impact end surface, thereby producing jetting of viscous medium from the nozzle space through the nozzle outlet towards the substrate.

35. (Withdrawn) The system as claimed in claim 26, wherein said impacting device includes a piezoelectric actuator.

36. (Withdrawn) The system as claimed in claim 26, wherein said impacting device includes an actuator having properties selected from the group consisting of electrostrictive, magnetostrictive, electromagnetic and shape memory alloy properties.

37. (Withdrawn) The system as claimed in claim 26, further comprising a suction generator for producing a gaseous flow and directing elements for directing said gaseous flow past the nozzle outlet.